FACT SHEET

JNTF FACT SHEET 98-006

Space Based Infrared System Wargaming Model (SBIRS/WM)

MISSION

The SBIRS Wargaming Model provides Government approved SBIRS representations in exercises, analysis, and demonstrations. Example activities include: Command and Control Simulation (C2 Sim) exercises such as those performed at the JNTF, BM/C3 evaluations such as the Army NMD Legacy Plus, and demonstrations benefiting warfighters in large exercises such as Frontier Arena, Warrior Flag, Joint Project Optic Cobra / Roving Sands, Joint Project Optic Diamond (1998), Joint Project Optic Windmill (1998), and the Expeditionary Force Experiment (EFX 1998).

The SBIRS Wargaming Model effort is managed by the US Air Force Space and Missile Systems Center (SMC) Space Based Infrared System (SBIRS) Program Office (SMC/MT). Currently, SBIRS/WM has the only government approved SBIRS Low models used in exercises with external systems. It also contains simplified SBIRS High models.

The Joint National Test Facility (JNTF) at Schriever Air Force Base, Colorado, is home to the SBIRS/WM. The JNTF is a center for a large number of simulation and wargaming exercises. Eleven of the fourteen SBIRS/WM external system activities, to date, have been hosted at the JNTF.

SBIRS OVERVIEW

The Space Based Infrared System Wargaming Model (SBIRS/WM) is a government owned computer simulation which represents the Low Earth Orbit (SBIRS Low) element of the Space Based Infrared System (SBIRS), formerly known as Brilliant Eyes.

Currently, there are two versions, the original Brilliant Eyes Simulator (BESim) Analytical Tool (BESim/AT) and the SBIRS/WM, formerly known as BESim Real-Time (BESim/RT). BESim/AT provides a high fidelity analysis tool for performing design trades and analysis, as well as an independent tool for verification of SBIRS Low operational utility and effectiveness. The SBIRS/WM is a version that runs in real-time. It is based on the Analysis

version and is used for representing SBIRS in JNTF Wargames, other system-of-system simulations, and exercises. These sister simulators currently are the only ones approved by SMC/MT for representing SBIRS Low.

SBIRS/WM simulates SBIRS, which is a distributed space sensor system and an element of the Ballistic Missile Defense (BMD) architecture. SBIRS uses infrared and visible sensors on satellite platforms in conjunction with a ground-based Element Operations Center (EOC) to track missiles during their boost, post boost, and midcourse phases. The sensors provide global surveillance to detect, acquire, classify, and track objects through the boost, post-boost, and midcourse phases of flight. SBIRS provides surveillance data to the Command and Control Element (C2E) of the BMD architecture for use in situation assessment and for use as cueing and support information for other BMD surveillance and weapon elements.

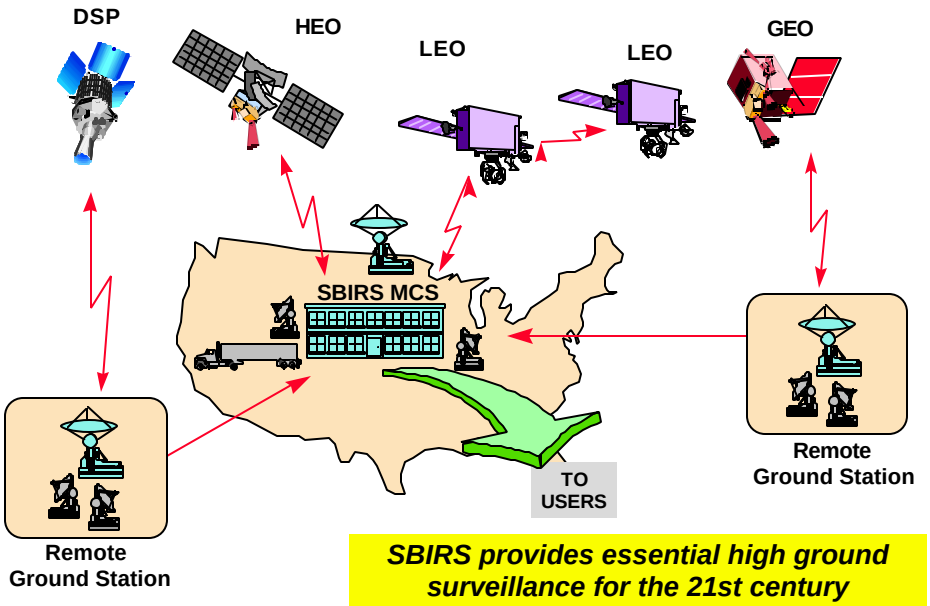
SBIRS/WM is an integrated end-to-end simulation of the SBIRS

specializing in the SBIRS Low element. SBIRS/WM also simulates the other SBIRS constellation segment, SBIRS High, which consists of Highly Elliptical Orbit (HEO) and Geosynchronous Earth Orbit (GEO) satellites. Data from the constellation segments are fused within SBIRS/WM according to flexible parameters which describe the simulated architecture. This same flexibility is used to produce different constellations and architectures necessary to meet the requirements being studied in various activities.

CAPABILITIES

- Support NMD and TAMD Command & Control simulations by providing SBIRS High and full SBIRS architectures.
- Support live TAMD and related exercises (e.g. Joint Project Optic Cobra / Roving Sands; Frontier Area / Warfighter) .
- DIS capability allowing participation in distributed exercises.
- Support studies and analysis for BMDO, USSPACECOM, AFSPC, and SMC.
- Support advanced concepts and applicability to current and future assets for SMC/XR

SBIRS SYSTEMS TODAY



SBIRS provides essential high ground surveillance for the 21st century

STATUS

SBIRS/WM continues to support multiple system simulations and exercises each year. Current plans are to enhance representation of SBIRS High. Additional work is being performed to enhance the mission operator interface to support the different specific needs of the widely varying simulations and exercises.

AVAILABILITY

If you would like more information about SBIRS/WM, please look us up on the Internet at:

http://www.jntf.osd.mil/bmdssc/SBIRS/SBIRS_SW_Spec.htm

Or, contact the JNTF at:

Joint National Test Facility
730 Irwin Avenue
Schriever AFB, CO 80912-7300
Phone (719) 567-9200
jntf.info@jntf.osd.mil
http://www.jntf.osd.mil

For information regarding the SBIRS Modeling and Simulation Program, please contact:

SMC/MTEP
Los Angeles AFB, CA
90245